

NOTES ON THE REDISCOVERY, HABITAT, AND
CLASSIFICATION OF *EXOMELLA PLEURALIS* (CASEY)
(COLEOPTERA: BYRRHIDAE)

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ABSTRACT

The discovery of *Exomella pleuralis* in Oregon and 4 localities are given along with generalizations of the habitat and a review of the classification.

Exomella pleuralis was first collected by the Reverend John Henry Keen at Metlakatla, British Columbia, around the turn of the century. It had not been found again until the winter of 1976, when 8 collections of the beetle were made by us from 4 sites along the north-central Oregon coast. The southern-most site is approximately 1200 kilometers (10° of lat.) from Metlakatla. *E. pleuralis* has been taken at the following localities in OREGON: *Lane County*, Heceta Head, Devils Elbow State Park, near sea level, 14-II-76 (12), 24-X-76 (4), 14-V-77 (23), L. K. Russell, 14-XI-76 (74), P. J. Johnson; *Tillamook County*, Neahkahnie Mountain, 150 m., 24-XII-76 (2), 26-XI-77 (1), PJJ; *Lincoln County*, 8 km SE Kernville, near sea level, 16-I-77 (7), 6-III-77 (3), LKR; *Lane County*, Cape Ridge, Cape Perpetua, 500 m., 23-I-77 (1), PJJ. The 24-X-76 collection was the only one to provide teneral specimens. Other collections have yielded only fully pigmented adults. None of the collections to date has provided larvae assignable to *E. pleuralis*. Collecting techniques involved qualitative moss sampling using Tullgren funnels. Material collected has been compared with five topotypic specimens from the Casey collection (USNM) labelled "Metlakatla, B.C., J.H. Keen, collector." Representative specimens from Oregon are in the California Academy of Sciences collection and the Oregon State University collection.

All of the recorded collection sites for *E. pleuralis* are within a maritime summer fog-belt, and within 8 kilometers of the Pacific Ocean. Three sites are within the *Picea sitchensis* (Sitka spruce) Forest Life Zone as defined by Franklin et Dyrness (1973). This zone is characterized by high year-round moisture levels in excess of 2000 millimeters annually. Summer moisture is high due to frequent heavy, morning fogs, and annual temperature maximums and minimums are mild. For these reasons both terrestrial and epiphytic bryophytes are especially abundant. The Cape Ridge site is higher in elevation than the other sites, and borders on the *Tsuga heterophylla* (Western hemlock) Forest Life Zone (Franklin et Dyrness 1973). This zone is characterized by a more pronounced summer drought, largely due to an infrequency of fogs. However, since this collection site is on the north slope of the ridge, it is probably similar to the other sites in having a heavier seasonal moisture regime. All of the sites were either under an open Sitka spruce canopy, or at the edge of the spruce forest. The Heceta Head and Kernville collections were from moss on boulders near tide-water streams, which were protected from the ocean's salt spray. The Kern-

ville specimens were taken from, and fed for several weeks on, *Rhacomitrium heterostichum* (Hedw.) Brid. (Grimmiaceae), determined by J. H. Lyford, Oregon State University. The Neakahnie Mountain and Cape Ridge sites are small areas of talus covered with mosses. Both sites are considerable distances from free flowing water.

Exomella pleuralis is a unique beetle and quite distinct from all other Nearctic Byrrhidae. Its most distinctive features are its small size (1.5 mm), deeply sulcate elytra, erect and recurved dorsal setae, deeply emarginated elytral epipleura for the reception of the metafemora, and an aedeagus with long, stout parameres which curve inward and under the median lobe. K. W. Cooper (pers. comm.) dissected 7 females (Heceta Head, 14-V-77), and each contained a single, huge (0.6 mm), "uterine", matured egg. Larvae and pupae are as yet unknown.

Casey (1908) originally described *Exoma* as a new genus based on his *pleuralis* as the only included species. In his catalogue of the Byrrhidae, Casey (1912) erected the monobasic tribe Exomini and placed it in the Byrrhinae. Since *Exoma* was preoccupied in the Flatidae, Homoptera (Melichar 1901), Casey (1914) erected the new name *Exomella* for his genus and used the tribal name Exomellini.

El-Moursy (1961) lists Exomellini under the subfamily Amphicyrtinae in his generic revision of the family, an arrangement which we deem unsupported. *E. pleuralis* shows a close relationship to the Byrrhinae, and more especially to the Byrrhini, in possessing striate (deeply sulcate) elytra, extreme emargination of the elytral epipleura, capitate antennae, and completely retractile legs. The Amphicyrtinae is characterized by smooth and lightly punctate elytra, non-emarginate elytral epipleura, filiform or sub-filiform antennae, and free or non-retractile legs. For these reasons we feel that the monobasic Exomellini should be returned to the Byrrhinae to await further taxonomic clarification.

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